



Newsletter of the Arizona Geographic Information Council

Visit the State Map Library!

Ladies and gentlemen, step up and witness an unparalleled collection of historic wonders! Inside you can glimpse the distant past, revisit the world of your childhood, even look back on last year. I'm talking about the two-dimensional rendering of our three-dimensional world, the unequaled marvels of Arizona's very own State Map Library!

This glorious treasure trove of information is divided up into two parts, the Arizona collection and the U.S. Federal Depository collection. The Arizona collection starts with historical maps of the Arizona territory and goes clear up to the present day. You can see Arizona before the Civil War, when it was a horizontal shape that took up the southern half of what's now Arizona and New Mexico. You can follow the growth of our streets and highways – this collection has every highway map published by the state's Department of Transportation since it began in the 1920s! Are you interested in water history? The library has acres of irrigation maps. You can watch the shifting boundaries of the counties on early county maps. And there are plenty of city maps going back generations so you can look at a sprawling metropolis of today and see what it looked like when it was little more than a one-horse town. The library has all kinds of unique historical sheets that can't be found anywhere else.

There's so much more! The map library doesn't throw away *anything*. When an old map is superseded by a new one, they keep both. It has a nearly complete set of pre-1940 topographic maps, plus the complete run of the regular 7.5-minute USGS topo maps. It also

has FEMA flood insurance maps for the whole state ranging from the early 1980s up to today. And speaking of insurance maps, you can find here a large collection of the famous Sanborn fire insurance maps dating from 1890 to 1945. These are detailed city maps complete with building footprints. They have lots of annotation detailing the number of stories each building had, what type of heating system, information about the windows, and other such useful things. The originals were in color, but the library has black & white copies online and on microfilm. There is also a set of aerial photos available, though the library doesn't normally collect aerial photography. From the Land Department they got a complete set of early-1970s, 1:24,000-scale orthophotos covering the entire state.

Now, what of the other part of the collection, the Federal maps? Here too we have a marvelous multiplicity of fascinating finds. The library gets all kinds of publications from Federal agencies, which allows our national government to better serve the public at large. In this vein you will find forestry maps from across the country, every surface management and minerals map from the Bureau of Land Management, and topographic maps from all 50 states. You'll find stacks of geological maps from the U.S. Geological Survey that cover the United States, the moon, *and* the planets! Nautical and aeronautical maps are here, too. The collection even includes maps of other countries that were published by the CIA.

The map library's inventory is stupefying in its vastness and mind-boggling in its depth, containing

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Reflections on the Geospatial Data Debate

Tim Smothers

Qualifier: The opinions expressed within this article are solely those of the author, and do not in any way represent the findings of any board, commission, committee, or reasonable authority on the matter at hand. These thoughts are merely an expression of concern from one of your peers, and are in no way a voice of the AGIC Board nor any of the AGIC committees nor membership at large.

Now that I've got that out of way, it is time to look back at our summer and forward to what should prove to be an interesting fall. Hopefully all of you geospatialists had the opportunity to attend one of the four regional forums discussing the white paper entitled *The Geospatial Debate*, where authors discussed the process of collecting GPS data outside of the guidance of a registered land surveyor (or registrant), and attendees had the opportunity to voice their opinions regarding the subject. Rather than continue to beat the proverbial dead horse with regard to the subject matter, I'd rather enjoy focusing on the outcome of these forums (see qualifier above, as these cognitive recollections are part of my memory, and may not reflect the memory nor recollection of other attendees).

As discussed in last June's *Surface Matters* article entitled *GIS and Surveying: Defining Geospatial Data and Practice*, we found this debate to be taken on at various levels of government – Federal, State and local. While the issues presented at each forum were similar,

the approaches to achieve resolution were different. Through the forums conducted about our great state (Bullhead City, Peoria, Prescott, and Tucson) we found a common thread between all attendees. By the end of each forum it became clear that data collection (and its involved technology) was not the issue—but rather the use of the data itself. As professionals, it is incumbent upon us to ensure the viability of our resource (and this resource is the data), using available tools to represent our collective data in such a manner as is appropriate. Technology is one avenue that can assist us in the proper representation of geospatial data; however our best friends are common sense and metadata.

In an environment where the mantra is "build once, use many times," it is important to define the proper use of the data we create, and subsequently to research the appropriateness of the data we get from outside sources.

The Geospatial Committee of the Arizona Professional Land Surveyors (APLS) organization is currently scripting a proposal that outlines the concept of appropriate use as it relates to authoritative records. Defining the differences, and requirements, between a definitive record (e.g. record of survey) and a representative record (e.g. elk migration patterns) will be key to developing proper protocols for the use of many potentially shared datasets. Also in the works (through the Geospatial Committee of APLS) is the development of a document titled *Spatial Data Accuracy and Georeferencing Standards for Arizona*. This document was presented at the 2007 AGIC Conference by Michael Dennis, PE, RLS. It sets the bar high with regard to recommending and defining standards for evaluating the positional accuracy of spatial data. It is hoped that through both these documents,

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Previous issues of Surface Matters are available on the AGIC web site.

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Surface Matters is the quarterly newsletter of the Arizona Geographic Information Council. It is written for those who want to stay in touch with the vision and activities of AGIC and with the continuing growth of GIS in Arizona.

Your comments about this publication are always welcome. Please send all correspondence to the editor.

Readers are invited to submit articles that they wish to be considered for publication. The author retains all copyrights. Please let the editor know if the article has been published elsewhere.

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Map Library

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upwards of 80,000 individual pieces and spanning 400 years. The oldest map is a rendering of central Mexico from 1579. Another map, from 1785, shows California as an island.

You might be wondering, what sort of folk come to the map library? All sorts, of course! Anyone seeking knowledge. It's open to the public, after all. You'll meet real estate people, sometimes from out of state, researching the histories of particular parcels of land. You'll encounter archaeologists poring over ancient sites. If your family has deep roots in Arizona, you can look up your genealogy in the state archives and then come downstairs to the map library to see where your ancestors traveled. Federal agency people, state agency people, legislative people, and plain old normal people come in to look up all manner of historical things.

When you get here, don't just walk up to the librarian and say, "Show me everything on Yuma County." That won't fly. "Everything" is way too much. Instead, have an idea of what part of the state you're interested in, what time period, and what type of information you're looking for. That way the librarian will be able to point you more easily in the right direction. Oh, and you can't check anything out. It's not a lending library. Many of the materials are unique and the collection is too valuable to let people walk off with things.

When is it open? Three hours per day, from 11:00 'til 2:00 on weekdays. There's only one map librarian and she has additional duties to perform, so the map library has limited hours. However, she's very accommodating and happy to help. You can call and make different arrangements if your work is vital and you absolutely can't get there during normal hours. At any rate she's glad to have people come down and use the library, even if you just want to look randomly at different maps. You're the public, it's a public library, and that's what it's for!

You should be aware that it's down in the basement level of the State Capitol building. Being down there protects it from the executive hubbub on the upper floors. It's well lit, airy and very inviting.

After you visit, but before you leave the Capitol building, you must make a second stop. On the ground floor on the east side of the building is the *U.S.S. Arizona* Memorial Museum. It's a respectful tribute to the brave men who were lost with that fine ship.

So, ladies and gentlemen, now you've heard all about the Arizona State Map Library and the treasures that await within. Go have a look! ♦

Reflections on Geospatial Data Debate

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geospatialists can promote activities that clearly delineate the "definitive" or "representative" requirements of the geospatial data they use.

Incorporating information collected through these regional forums and applying consistent rules on the use of geospatial data, may provide a geospatial environment which will allow AGIC to provide better and more dependable services to Arizona's geospatial community. Stay tuned for future publications from AGIC and the APLS Geospatial Committee as both move further into this geospatial debate.

The Geospatial Debate is available for review at <http://sco.agic.gov> in the HOT TOPICS section of the home page. ♦

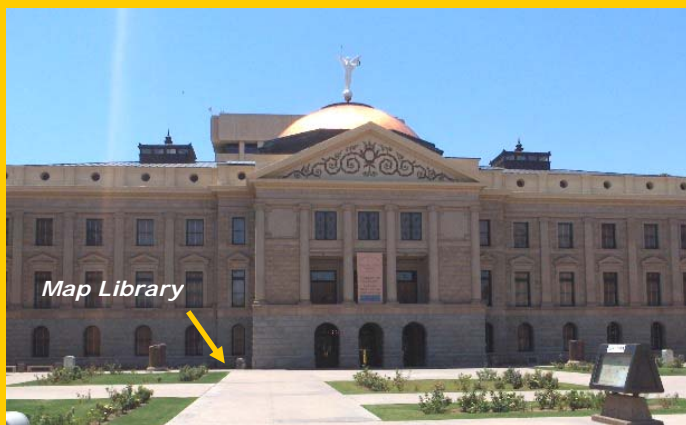
Further Information: State Map Library

The map library is located on the basement level of the State Capitol at 1700 W. Washington St., Phoenix. It is open to visitors from 11:00 AM to 2:00 PM Monday-Friday.

Arizona State Library, Archives and Public Records
Map Librarian: Julie Hoff
Web: www.lib.az.us
Email: Research@lib.az.us
Phone: 602-926-3878
1-800-228-4701 (within Arizona only)

Photo Details

The maps in the title banner are, from left to right:
Tombstone Mining Claims, 1881
Mexico, 1814
North America, 1740
Southwestern Territories, 1860
Bird's-eye View of Prescott, 1891



2007 AGIC Conference In Review

First Impressions by Carol Levine

A trip to Prescott is always a bonus when you can get out of the Valley heat and the conference was a total added pleasure. This was my first AGIC conference and I thoroughly enjoyed myself. The reception desk people for the conference were happy and helpful, not hassled and disorganized. Their attitude set a positive tone for the conference. The room assignments for each session were easy to get to, clearly marked and the signs outside each room were very inviting. The hotel was beautiful, my room was great and the food was a delight.

The conference took a high road compared to many conferences I have been to in the past. Professionalism was the umbrella for the presentations from the speakers to the vendors. I was impressed with the quality of the posters that lined the hallway. It showed incredible creativity and talent. Most of the people in attendance were experienced in GIS. The attendees reflected a wide range of professions from city and state workers to scientists, teachers and researchers. I got to meet new people and enjoyed seeing people I knew. On the second day I had lunch with Jim Riedmann and the Peoria group. Jim is a teacher of GIS at Phoenix College (great GIS program). I dined that evening with two gentlemen from India and we talked about work visas and other challenges. The guest speaker, Mr. Tom McConnell, on the third day was my lunch partner. I was most impressed with his energy along with his knowledge. He shared more about his trip and his plans for GIS education in Rwanda.

The sessions I enjoyed the most were those taught by ESRI staff. They have a welcoming style of presentation but most of all they admit when they don't have the answer and they commit to get back to you on the subject. The hands-on session I went to was good but far too crowded. As most sessions of that type, it is a challenge to keep pace with the majority of the group. Some added kudos: the gal in charge of the prizes did a really good job, the resume/job board was a great idea, and the conference bags were outstanding. Thanks to the committee for their hard work, it showed.

[Mrs. Levine has recently completed the GIS program at Phoenix College. A vibrant lady and proud grandmother, she is eagerly learning GIS and pursuing her new career.]

Hands-on Sessions by Vivian Gonzales

AGIC had seven hands-on workshops for attendees to sign up for during the conference. Workshops ranged from ESRI classes to AutoCAD and Google maps. The 20 laptops were donated and set up by Pima County Department of Transportation – thanks to Steve Whitney! All the classes were full and there were people on waiting lists. Although they were filled, people were kind enough to double up. I received

many positive comments about the workshops, except that more laptops were needed.

Don Reiff, Chief of Surveys for Reclamation said that the hands-on workshops were useful for a beginner in GIS like himself. They were easy to understand and he had good instructors for his Cartography and AutoCAD Map 3D 2008 classes.

Jeremy Dandron, IT Specialist in GIS said he learned something new in the Extending GIS with Open Source API: Google GIS workshop and was able to apply it to a recreation project in Reclamation. He was so excited about what he learned that he built the web page over the weekend and presented it to the planners on Monday morning.

Lynx Lake Hike by Nigel Reynolds

Almost 20 people gathered in the lobby early one morning at the recent AGIC conference, but their attire of shorts and tee shirts showed they weren't planning to attend one of the conference sessions. They were ready to enjoy a hike around Lynx Lake, one of the many scenic spots that make Prescott a delightful city to visit or live in. On the short drive to the trailhead, the hike leader, Nigel Reynolds, used FRS radios to tell the participants a little about the history and geology visible along the side of highway 69.

At the trailhead, high above the sparkling waters of the lake, the hikers gathered their water bottles and set out at a leisurely pace on the two mile ramble. On the way around the lake, there were a number of stops where they learned about the variety of trees and how to differentiate between them, the history of mining along Lynx Creek, and where ospreys and bald eagles nest in the spring -- causing the closure of the trail so these magnificent birds can rear their chicks undisturbed.

The drive back to the conference was quieter than the drive out, with everyone a little tired from the exercise and their heads full of recently acquired knowledge, a few kernels of which will hopefully be retained.

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GIS Career Fest 2007

Join ASU and the Arizona Geographic Information Council for the second annual GIS Career Fest on October 16, 2007. The inaugural fest of 2006 was a great success, well attended and well received.

The objective of the GIS Career Fest is to bring local GIS professionals to campus to meet with students of geospatial science. This provides GIS practitioners a venue to impart future workforce needs and allows geospatial students the opportunity to research and prepare for future employment.

Numerous organizations from state and local government as well as the private sector will be represented. Each organization will have a table in the banquet hall where they will present their GIS needs and the skills that they are looking for in potential GIS employees.

The event will begin with a panel discussion by representatives of organizations that use GIS. They will answer questions from a moderator concerning their specific GIS needs and GIS employment in general. Students will then have 90 minutes to visit individual organizations' exhibits, which will provide the opportunity to see what types of jobs are available, what kinds of jobs meet their interests, and what skills they should be focusing on while they are in school.

The GIS Career Fest will be held in the Ventana Ballroom at the ASU Memorial Union, 12:30 - 2:30 PM on Tuesday, October 16th. ♦

Seeking Student Correspondents

Students! Are you planning to attend the Career Fest? Would you like to contribute to this newsletter? If so, then here's your opportunity.

We are interested in students' impressions of the GIS Career Fest. Specifically, we'd like your answers to these questions:

- Why did you decide to attend the Career Fest?
- What point(s) in the panel discussion made the strongest impression on you?
- What did you learn from the exhibitors?
- Did the Career Fest have any impact on your thoughts about your own career directions?
- What other thoughts or impressions did you have about the event or about GIS?

Please contact the editor before the Career Fest to let him know you'll be submitting your thoughts. (This is preferable but not absolutely necessary.) Afterwards, send your answers by November 1st to agicnews@yahoo.com. We will print a selection of those received in the December issue. Students whose answers are used will have their names included in the prestigious Contributors list!

For a review of last year's event, see the December 2006 issue of *Surface Matters*, at <http://agic.az.gov/newsletter>. ♦

Conference Review

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Further Highlights

On the first day of the conference, keynote speaker Dr. Gary Woodard of the University of Arizona addressed the conferees detailing his progress toward the goal of developing a unified Arizona Hydrologic Information System. This effort involves coordination between different levels of government and the combination of data sets in different projections.

During lunch on the second day Mr. Tom McConnell and his son, Mr. Jeff McConnell, presented a slide show describing the many cultural and technological hurdles that challenge their determined effort to bring GIS education to schools in Rwanda. Despite the numerous difficulties inherent in such an undertaking, the McConnells are enthusiastic about their progress and optimistic about the future success of this endeavor.

Ten organizations displayed about 30 maps for the poster session. Conference attendees voted on the merits of the maps, and the winners were:

- Best Cartographic Design – Rob Chasan, City of Scottsdale
- Most Innovative Presentation – Mele Koneya, City of Scottsdale
- Best Analytical Presentation - Amanda Tovey, Maricopa Association of Governments

Stats

Total number of attendees: 246

Students: 3

Small dogs: 1

Exhibitor booths: 24

As usual, AGIC extends its hearty thanks to all the sponsors, without whom the conference would not be possible. ♦





AGIC Roundup

- The Administrative and Legal Committee has been working in concert with the Arizona Professional Land Surveyors (APLS) to sponsor discussion forums about the roles and responsibilities of professional practice between surveyors and GIS practitioners. Four such forums took place. These discussions are part of the efforts of APLS to prepare a recommendation to the Arizona Board of Technical Registration concerning the collection and use of geospatial data.

- The State Cartographer's Office plans to hire a new AGIC intern. The position will require 15-20 hours per week, it will be paid, and it will last approximately one year. Those interested should contact the State Cartographer's Office for details about applying: <http://agic.az.gov>

- AGIC President Tom Sturm and President-Elect Tim Smothers will be attending the annual conference of the National States Geographic Information Council (NSGIC). The conference will take place in Madison, Wisconsin during the last week of September.

- Board Members Adam Iten, Gene Trobia and Tim Smothers gave a presentation at the annual meeting of the Arizona League of Cities and Towns on August 29th. They discussed the benefits of GIS and data sharing, the use of GIS in 9-1-1, and AGIC's role in identifying, facilitating, and accomplishing common statewide GIS goals.

- The advisory committee of the Arizona Height Modernization Program will award seven \$10,000 grants for height modernization surveys. This program is an effort of the National Geodetic Survey to assist states in updating and improving their geodetic control networks. Those seeking grants must submit their proposals to the Height Modernization Advisory Committee. For background on height modernization, see <http://agic.az.gov/hm>.

GIS DAY

NOVEMBER 14, 2007

PRACTICALLY EVERYWHERE

THE LOCATIONS AND STYLES OF GIS DAY EVENTS CHANGE FROM YEAR TO YEAR. STAY ALERT FOR FURTHER DETAILS.

WWW.GISDAY.COM

SOUTHWEST ARIZONA GIS

NOVEMBER 15, 2007

9:30 AM

YUMA COUNTY DEPARTMENT OF DEVELOPMENT SERVICES

ALDRICH AUDITORIUM

2351 W. 26TH STREET, YUMA

CONTACT: JOHN WHARTON, JOHN.WARTON@CO.YUMA.AZ.US



Calendar of Events

ESRI HEALTH GIS CONFERENCE

OCTOBER 7-10, 2007

FIRESKY RESORT & SPA

4925 N SCOTTSDALE RD, SCOTTSDALE

THE LAST DAY OF THE CONFERENCE WILL INCLUDE A SITE VISIT TO THE ARIZONA DEPARTMENT OF HEALTH SERVICES, FEATURING PRESENTATIONS AND A POSTER SESSION.

WWW.ESRI.COM/EVENTS/HEALTH

ASU/AGIC GIS CAREER FEST

OCTOBER 16, 2007

12:30 – 2:30 PM

ASU MEMORIAL UNION, VENTANA BALLROOM

TEMPE CAMPUS

[HTTP://ISSRWEB.ASU.EDU/SERVICES/GIS/CAREER-FEST.HTML](http://ISSRWEB.ASU.EDU/SERVICES/GIS/CAREER-FEST.HTML)

MARICOPA REGIONAL GIS TECHNICAL COUNCIL

OCTOBER 17, 2007

9:00 – 11:30 AM

CITY OF CHANDLER PUBLIC LIBRARY

DOWNTOWN BRANCH

CITY COUNCIL CHAMBER, 2ND FLOOR

22 S DELAWARE ST, CHANDLER

CONTACT: RUSS HEISINGER, RHEISIN@MAIL.MARICOPA.GOV

AGIC QUARTERLY BOARD MEETING

NOVEMBER 1, 2007

10:00 AM

ADOT HUMAN RESOURCES DEVELOPMENT CENTER

1130 N 22ND AVE, PHOENIX

[HTTP://AGIC.AZ.GOV/BOARD/MEETINGS.HTM](http://AGIC.AZ.GOV/BOARD/MEETINGS.HTM)

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